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The Information Invasion

If you're thirsty, it's sensible to stand under a faucet, not the Niagara Falls.

—David Lewis, British Psychologist
(as cited in Murray, 1998, p. 3)

Do you ever feel exhausted by the time you roll into the school parking lot, and it is barely 7:30 A.M.? With the sound of the morning alarm clock, most days begin with a cacophony of chatter, news reports, and inconsequential facts and events. At work, the deluge continues as e-mails ding, faxes drone, Palm Pilots beep, and cell phones serenade away even in the restroom. Welcome to the information invasion, where a person is never more than a click away from anything he or she may need or want to know.

When it comes to the transmission of information, modern society has reached its saturation point. It used to be that church, family, and schools were the primary sources of knowledge. People, goods, and news traveled slowly by foot, horseback, or ship. With the advent of the steam engine, followed by motorcars, then aircraft, spacecraft, and finally a little cable known as fiber optics, the speed at which information moves has increased 10 billion times in just over 200 years (Heylighen, 1998). In the 16th century, it took Magellan three years to sail around the globe. Today, a satellite does it in an hour.

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GLOBAL COMMUNICATION: FRIEND OR FOE?

Global communication significantly reduces the delay between a scientific discovery and the discovery's acceptance by consumers. At the beginning of the 20th century, for instance, appliances such as vacuum cleaners and refrigerators took 30 to 40 years to reach peak production. More recently, gadgets like CD players, cell phones, and Tivo have swept through the marketplace in a mere decade. Because technology is now so sophisticated, the distribution and production of ideas and information are limitless.

The ramifications of global communication for public schools are devastating if not recognized and managed. When educators are bombarded by academic discoveries, it is impossible for them to see the forest through the trees. According to British psychologist David Lewis, "The fast flow of facts motivates people to a point, but once it pushes past a critical threshold, their brains rebel. A paralysis of analysis [settles in]" (as cited in Murray, 1998, p. 1). Dealing with the chokehold of resources already in existence, while also trying to synthesize a barrage of new information, fuels disorganization, leads to poor decisionmaking, and keeps employees on edge.

One of the biggest problems facing education today is not a dearth of ideas but rather an overabundance of them. It is not uncommon for a school district to have 50 or more changes going on at the central office and even more at individual sites, all within a single year (Kaser, Mundry, Stiles, & Horsley, in press). Lack of quality controls and focus creates unstable goals, deadens creativity, and breeds complacency.

To cope with the increased speed and complexity of technological advancements, educational leaders must become adept consumers. Central office managers can be the first to survey the landscape and find suitable terrain to clear. One worthy exercise to rid a district of debris is to examine the amount of time teachers and administrators spend completing paperwork. Although technology has streamlined many processes, it also heightens requests for more reports and information. An audit will reveal the forces in the organization that generate the most paperwork and for what purpose. Once a list of departmental paperwork demands is compiled, the superintendent should ask, "How do these reports or documents enhance the educational process and improve student learning?" Armed with evidence, the superintendent can facilitate the elimination of frivolous paperwork that is bogging down employees and eating up precious time.

Paperless board agendas are another avenue to save time and money, streamline communication, and maximize the use of existing technology (see sidebar: *Taking the Paperless Concept a Step Further*). An added bonus is that board members model technological prowess for staff and students by showing firsthand how computers are used as a working tool.

Taking the Paperless Concept a Step Further

In 2001, the North Hills School District in Pittsburgh, Pennsylvania, began using electronic agendas for their board meetings (DeMarco, 2002). Faced with four different agenda versions, each numbering hundreds of pages, last-minute additions or changes were nearly impossible and left plenty of room for error. With two board meetings a month, preparing agendas was practically a full-time job for a member of the superintendent's office.

North Hills' Director of Technology and Information Services, Thomas DeMarco, devised a simple plan. The agenda is now put together as a Web page, with supporting documents scanned into Adobe Reader. DeMarco discovered that converting documents to a .pdf file saved time and money and made last-minute changes, such as reordering page numbers or adding charts, a snap. The agenda is loaded onto the district's intranet site as items are completed. This allows for incremental viewing by board members, instead of making them wait until the weekend to read through everything prior to Monday's meeting. Principals and other key staff have access to all but the closed-session items. These most confidential sections require a special access code. Once the entire packet is complete, it is posted to the public section of the district's Internet site.

The cost of going paperless has paid off for North Hills. In the first year, \$6,400 was spent on computers, software, and home Internet access for the nine trustees. By Year 2, the cost dropped to \$330. In addition, the district has eliminated more than 8,000 pages of monthly copying, and overtime is no longer paid to the driver who delivered agendas twice a month to the trustees' homes. On the night of board meetings, laptops are borrowed from the district's math lab and then returned the next day.

OVERSHOOTING THE MARK

In the Information Age, revolutionary ideas from yesterday are de rigueur today and by tomorrow are already outdated. Although the North Hills School District exemplifies how technology reduces the workload for some, technology is also a source of frustration for others. By the time the latest and greatest equipment is purchased, better, faster, and cheaper machines have flooded the market. This constant reeducation to learn new things can have harmful consequences for school employees. When teachers and administrators are expected to try several unfamiliar products or innovations in quick succession, they become overloaded.

Futurist Alvin Toffler has conducted detailed studies on the psychological effects of grinding overload on humans (Heylighen, 1999). Toffler believes that individuals exposed to rapid and often unpredictable changes develop a sense of helplessness and confusion similar to the

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effects of shell shock on victims of war. Conversely, when change happens gradually, natural selection keeps all but the most important ideas from reaching people. This makes it much easier to process information. Because progress has no boundaries, many school systems overshoot the mark by introducing too much at once. When administrators and teachers are saturated with stimuli, they eventually crawl into a hole and say, "This too shall pass."

All living organisms have the capacity to fall apart, adapt to changing conditions, and finally transform themselves into something better and stronger. Hardy learning structures certainly do take root in schools. However, without a strong core identity and good filtration system to purge unrelated or irrelevant information, correctly doing the right things occurs sporadically. Reforms overshadowed by other initiatives with more backing or resources simply have no power to ward off resistance. According to the Consortium on Productivity in Schools (1995), attempting to solve problems by adding new regulations, goals, and mandates overwhelms school staff and makes it difficult to achieve any goal. This endangers the support schools need to thrive and undermines the conditions necessary to hold them accountable. The bottom line: Innovation and change are challenging and uncomfortable no matter how well managed they are. But if school systems do not identify specific elements to be left alone, balance and stability shall be overrun by turmoil and despair.

CALIFORNIA'S BILLION-DOLLAR EXPERIMENT

Restructuring efforts in most districts throughout the United States have an abysmal track record. Lack of success is attributed to a number of miscalculations, including (a) little emphasis on research and development to determine why, when, and how something needs to change; (b) the failure to remove structural obstacles; (c) the lack of a critical mass of supporters to lead the change effort; (d) the lack of a clear picture of what the organization might become that looks any better to stakeholders than the one that already exists; (e) the absence of strong leadership to push people beyond the pain of conflict and controversy; or (f) moving on to something new before a change is firmly embedded into the culture (Dufour & Eaker, 1998). When these critical elements are neglected, reforms will not last, since ideas acquired with ease are usually discarded with ease (Fullan, 1993).

A poignant illustration of poor planning and hastily implemented change is California's billion-dollar Class Size Reduction (CSR) initiative, thought to be the largest educational reform in the nation's history. In July 1996, a mere two months before the start of a new school year, the

California legislature voted to reduce class size in Grades K through 3. The initial bill offered school districts \$850 per student to create classes of 20 or fewer children. To qualify for funding, schools had to lower first grade first, then second grade, followed by third grade or kindergarten. In addition, districts faced stiff penalties if any single classroom averaged more than 20.4 students over a seven-month period. This unprecedented measure was prompted by poor reading scores; class sizes among the highest in the country; the Tennessee Project Star study, which concluded that smaller classes had a positive effect on student achievement; and an economic boom in state revenue.

Afraid to look a gift horse in the mouth, districts scrambled to hire thousands of new teachers and find space, which was already at a premium. Although funding for the program was the same for every school, the most crowded districts incurred much higher costs and had to reach into their own coffers to purchase facilities and recruit qualified teachers. Sadly, low-income and minority students who stood to benefit the most from smaller classes had the fewest opportunities to participate.

In 2002, the CSR Research Consortium released a study on the effects of smaller classes on primary-school-aged children in California (CSR Research Consortium, 2002). After six years and billions of dollars, researchers concluded that although achievement scores had risen steadily among elementary students across the state, it was difficult to determine what role, if any, CSR played in this improvement. Several factors were noted in impeding the researchers' ability to pinpoint the effects of smaller classes, including:

- Lack of baseline data.
- No comparison scores of larger K–3 classes before the reduction.
- No current state testing program for K–1 students.
- A host of simultaneous reforms introduced at the same time as CSR.

Fallout from the swift implementation of CSR continues to linger. Statewide, the number of teachers increased 46% between 1996 and 1999 (CSR Research Consortium, 2002). This hiring frenzy prompted a jump in the issuance of emergency teaching permits from 1.8% to 12.5%. Making matters worse, noncredentialed teachers are still concentrated in schools with the greatest number of English-second-language and minority learners. In fact, students in high-poverty schools are 3 times as likely to have underqualified teachers, whereas students in schools with the lowest Academic Performance Index are 4.5 times as likely to have them (Center for the Future of Teaching and Learning, 2003). Because of the challenging working conditions, disadvantaged schools have the hardest time attracting experienced and fully licensed teachers.

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Another problem with CSR is that operating expenses in most school districts exceed state revenue. As teachers' salaries increase with cost-of-living adjustments and step-and-column advancement, per-pupil allocations have remained relatively constant. This underfunded mandate, which allows virtually no flexibility in averaging class sizes, costs California's Capistrano Unified School District an additional \$3.9 million annually. Rising encroachment forced the school board to jettison third-grade CSR in 2003. Although Capistrano parents have rallied together for three consecutive years to raise \$1 million and save third-grade CSR, how much more can be expected from the community to supplant the education of children? And what about those neighborhoods that simply do not have the economic means to undertake such a massive fundraising campaign?

Although the program is extremely popular among parents and teachers and has become a sacred cow inside the legislature, are California students really better off now than they were a decade ago? Are the benefits commensurate with the money spent and the sacrifices made to other programs that have been cut to retain CSR? Certainly it is hard to argue that smaller classes are not good for children or that teachers do not have more time to provide individualized support. Yet the evidence is clear that there is no better substitute for a good teacher. An exceptional teacher with 35 students has a far greater impact on learning than a mediocre or ineffective teacher with only 20 students.

LEARNING TO SET LIMITS

As overnight restructuring efforts like California's CSR Initiative sweep through schools across America, is there a way to ward off growing cynicism and create the high-quality learning communities students need and deserve? The solutions lie in setting limits and rationing the time teachers and administrators spend sorting through volumes of information and responding to new ideas. Superintendents and school boards must recognize that information overload and constantly shifting priorities contribute to employee dissatisfaction. If overlooked, an atmosphere of gloom and doom is certain to permeate their organizations.

Most people seek knowledge to perform better in their jobs and gain a competitive edge. On average, professionals spend 38% of their time searching for information (Sage Learning Systems, 2001). Initially, a sense of wonder and excitement is felt as fresh ideas are acquired. However, once the learning threshold peaks, the novelty begins to wear off and fatigue sets in. Compare this to what happens when water is poured into a pitcher that is already full. The added liquid simply splashes over the sides, while the volume of water inside the container stays the same.

Processing an overabundance of information or constantly experimenting with new methods weakens the immune system and leads to what psychologists have dubbed Information Fatigue Syndrome (Murray, 1998). Consider some of the poor first-year teachers you have known (or your own first year in the classroom, for that matter). Armed with a truckload of standards, curriculum guides, how-to books, teaching manuals, and test scores, most rookies are turned loose in September and left to fend for themselves until June. Yet if it were so easy, why do 30% of all new teachers leave the classroom within the first three years and 50% within seven years? Might it be that synthesizing an avalanche of innovations, while attempting to make sense of hundreds of resources already in existence, creates a brain drain? This psychological depletion triggers anxiety, sabotages concentration, interferes with sleep, sparks irritability, and leads to mistakes.

School leaders are even worse off than teachers when it comes to the information invasion. A 1996 Reuters survey discovered that two thirds of all managers suffer from increased tension and one third are plagued by ill health due to overload (Heylighen, 1999). Principals are especially vulnerable as they face pressure to improve their schools yesterday. If they are not overcome by something they are doing, they are consumed with worry about something they believe they ought to be doing.

Are you on the verge of a cognitive calamity? Have eBooks, iPods, and iMovies turned you into a digital diva? To examine overexposure to stimuli, complete the "Are You an Information Junkie?" checklist in Form 1.1. Averting a meltdown may mean a little pruning is in order. Self-assessment is a great starting point to combat information fatigue since a cure cannot be found without first knowing you have a disease.

This checklist reveals how well you are able to ration the time spent sifting through information as well as your ability to set limits on responding to new ideas.

Form 1.1 Are You an Information Junkie? A Personal Checklist

	Usually	Sometimes	Never
1. When new programs or ideas are added to my plate, I find something to eliminate.			
2. I ration the time I spend watching TV, listening to the radio, and cruising the Internet.			

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Form 1.1 (Continued)

	Usually	Sometimes	Never
3. I am able to relax when technology makes me wait.			
4. I have learned how to focus on the information I really need by trashing what I do not need.			
5. I respond to e-mail, voicemail, and faxes on my own time once more important tasks have been completed.			
6. I embrace the principle of "just-in-case learning" by spending a great deal of time reading journals, magazines, and doing research.			
7. My office or classroom contains surface clutter in case I need the information for a rainy day.			
8. I spend a significant amount of my day looking for information.			
9. I often feel tense or stressed from information overload.			
10. I have a number of new ideas I would like to implement in my job, but just have not found the time.			

Scoring:

- ✓ **Questions 1–5:** Give yourself 2 points if you answered *usually*, 1 point if you answered *sometimes*, and 0 if you answered *never*.
- ✓ **Questions 6–10:** Give yourself 2 points if you answered *never*, 1 point if you answered *sometimes*, and 0 if you answered *usually*.

Interpretation:

16–20 points: Congratulations! You are a critical consumer of information and innovations.

11–15 points: Although you find yourself getting sidetracked once in a while, you have installed filters to sift through what you do and do not need.

6–10 points: You often feel distracted, disorganized, or irritable from overexposure to information. You have not quite figured out when to hit the off button.

0–5 points: You are an information junkie and likely suffer from fatigue and overload! Find the shears and start pruning IMMEDIATELY!

CONCLUSION: TURN OFF THE SPIGOT

Unfortunately, school systems are not designed to cope with the knowledge explosion sweeping across the globe. Thus, many educators are slow to recognize the correlation between this phenomenon and low employee morale, feelings of inadequacy, stress, and burnout. Instead, more recognizable causes for problems are cited, such as shifting demographics, changing family values, undisciplined students, increased accountability, and inadequate funding. Information Fatigue Syndrome is a reminder that too much of something can create disarray inside the schoolhouse.

Sustainable growth in public schools is realized when change and innovation are introduced in measured doses. Since the human mind is not wired to process information in gigabytes, educational leaders have to start abandoning tasks, policies, and programs that no longer support their primary mission of learning. This requires disciplined action in identifying what to give up and what to keep. If the unaltered elements of a system are ignored, even minor adjustments are likely to overwhelm people.

In his best-selling book *Good to Great*, Jim Collins (2001) used the story of the Hedgehog and the Fox to chronicle what distinguishes a good company from a great one. Great companies, according to Collins, are like hedgehogs—simple, dowdy creatures that know “one big thing” and stick to it. Less remarkable companies are more like foxes. These crafty, cunning creatures know many things, but lack consistency. The key to becoming the best at something (i.e., achieving hedgehog status) is to know your core business and then set goals and strategies based on this deep understanding. In other words, identifying what you can and cannot be best at is crucial.

Is your district like the fox, pursuing many ends at the same time, never meshing ideas into a single overarching concept or unifying vision? Or does your organization practice the principles of the hedgehog by reducing all information and dilemmas to simple ideas? In the district of hedgehogs, people know when to turn off the spigot. In the district full of foxes, the spigot is always left on.